

Provide safe, clean and efficient power for textile industry

Shaoxing Chuangfubang Project

Project Overview /

Shaoxing Chuangfubang Textile Co., Ltd. is the first customer of ENN micro-gas turbine demonstration in the textile industry. The company is located in Shaoxing city, an ancient water town with many bridges where it is famous for wine and calligraphy. The customer is engaged in knitting textiles, textile raw materials, clothing and apparel manufacturing and also does import and export textile business. The original energy supply system is a direct-fired dryer with a biomass oil boiler. In addition to the environmental concerns and high energy cost, direct-fired drying is easy to ignite the internal fluff which causes the burning of the cloth from time to time. These cause many safety issues. ENN solution helps this customer solve the safety concerns and provide the clean energy to meet the needs through an electricity + hot air energy system.

According to the customer's energy demand, ENN provided the solution to meet the customer's energy needs after performed investigations and simulations. An E135 micro gas turbine with adjustable heat-to-electricity ratio is used to produce the electricity. At the same time, the exhausted high-temperature gas splits into 10 pipelines and flows into a 10-section oven stenter to meet the drying needs. The gas temperatures of the 10 boxes can be adjusted by the electromagnetic valve in each pipeline, and the individual box can be independently selected to close or open according to the exhausted gas flow rate in order to meet the drying needs of the production lines. The E135 micro-gas turbine outputs 135kWh electricity, which is directly integrated into the user's 400V low-voltage wiring cabinet.

In the process of drying, because the humidity of the cloth is different, the heat required is also different. With the thermoelectric ratio adjustable technology, part or all of the exhausted gas can be used to heat the outlet air of the compressor, so that the exhaust gas temperature can be adjusted continuously between 270°C to 650°C. This avoids energy waste caused by exhausted gas when it is too hot or low. The accurately matching energy requirements can significantly reduce the energy cost. The system has been stable operation after installation and has not only provided heat and part of the electrical requirements of the production, but also helped customers solve the problems of emissions and eliminated the hidden danger of open flames. ENN Power's electrical heating and air cogeneration system can meet different customer energy needs. We continuously carry out technological innovations, provide best products and services for our customers, and meet the emission and safety requirements of the textile industry. Reducing customers' energy costs to provide the best solutions for safe, clean and efficient energy are always our goal.





Applications

- knitting textiles
- textile raw materials
- clothing and apparel manufacturing



System consists of

- one E135 micro-gas turbine + one 10-section oven stenter



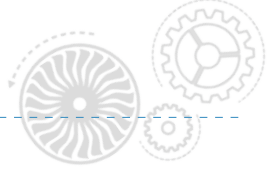
Delivered time

- June 17, 2020



Location

- Shaoxing



▶ ORIGINAL ENERGY SOLUTION /

-  direct combustion of the burner to produce high-temperature gas for drying

▶ CUSTOMER'S PAIN SPOTS /

- 1 Direct-fired drying is easy to ignite the internal fluff, resulting in burning of the fabric from time to time, and there is a safety hazard;
- 2 The electricity cost is high due to high local electricity price;
- 3 Customer increases the demand for electricity and needs to increase capacitor capacity.

▶ SOLUTION /

- 1.An E135 micro-gas turbine with adjustable heat-to-electricity ratio, the exhausted gas splitted into 10 pipes and passes into a 10-section oven. The energy is tiered with good economic benefits.
- 2.The exhausted gas flow rate is adjusted by an electric valve, and no human operation is required to realize automatic temperature control;
- 3.The thermal electrical ratio is adjusted to need the heat demand of different types of fabrics and reduce heat waste.

▶ CUSTOMER VALUE /

Reduce NOx emissions by 0.72 tons, dust emissions by 1.03 tons, SO2 emissions by 2.47 tons, and CO2 emissions by 267.54 tonscomposated the power shortage
Reduce energy costs by RMB 270,000/year and reduce production costs